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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,460	01/18/2002	Norbert Moszner	20959/1661 (P 58792)	3711

7590 10/21/2005

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EXAMINER

ZIMMER, MARC S

ART UNIT PAPER NUMBER

1712

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/053,460

Applicant(s)

MOSZNER ET AL.

Examiner

Marc S. Zimmer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9-11 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-11 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-7, 9-11, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Nass et al., U.S. Patent # 5064,877.

Applicant continues to traverse the rejection of the claims over *Nass* reasoning that the claimed clusters are patentably distinct over the polymerizable group-functionalized inorganic products contemplated by the reference insofar as the claimed compounds possess metal-metal bonds but the products of the prior art do not.

Applicant contends that the term “metal cluster” is well-known to those of ordinary skill as being a material featuring metal-metal bonds. As evidence in support of this fact, they offer the teachings of a textbook that, indeed, indicates that metal clusters are characterized by this feature.

That a metal cluster is one containing metal-metal bonds is not in dispute. However, there are many types of metal atom-containing clusters, some of which are devoid of metal-metal bonds, and there is no evidence of record that it is these materials that Applicant sought to claim to the exclusion of all others. It cannot be

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ascertained from the formula presented in claim 1 and also in the broader disclosure that the connectivity of the various moieties that make up the "cluster" is such that metal-metal bonds are present. The Examiner has found on the internet a discussion of unsubstituted polyoxometallates (POM) where it is disclosed in pages 5 and 6 that POM clusters comprise metal centers are surrounded by oxygen atoms in geometry dictated by the metal and the individual metal centered units engage in edge or corner sharing to form clusters. Although it cannot be predicted how their structure would be modified by the inclusion of multidentate ligands during oxometallate preparation, this document serves to illustrate that it would be improper to presume that the claimed products necessarily contain metal-metal bonds simply because the word cluster is employed therein.

Furthermore, it should be reiterated that the products made by Nass and those claimed by Applicant are made from the same precursor compounds, i.e. a metal alkoxide and a multidentate compound of which acrylic acid is exemplary. While it is acknowledged that Nass portrays the products as having metal-oxygen-metal residues, the same appears to be true of Applicant's clusters. (The Examiner has relied on a crystal structure article taken from the article entitled "Oxozirconium Methacrylate Clusters $Zr_6(OH)_4O_4(OMc)_{12}$ and $Zr_4O_4(OMc)_{12}$ (OMc = Methacrylate" authored by Schubert et al.)- Applicant seems to accept that the claimed clusters and those of this article are equivalent insofar as they have amended around this reference with their last reply.) The only noteworthy difference is that Nass prefers that the synthesis be carried out in the presence of water while Applicant performs their reaction in a Schlenk flask

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under a pressure of Argon ostensibly to omit water. Though it might be the case that having water available as a reactant may change the outcome of the reaction, Applicant also contemplates that water may be present on page 7 of their Specification. Finally, it is submitted that Nass' description of the structure is incomplete and, therefore, it is still possible that the products taught therein may possess metal-metal bonds.

Ultimately, there is insufficient evidence on the record that the claimed clusters are patentably distinct from those of the prior art to merit withdrawal of the rejection.

Claims 1-7, 9-11, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by the article entitled "Inorganic-Organic Hybrid Polymers from Surface-Modified Oxometallate Clusters" authored by Schubert et al. and published in Mat. Res. Soc. Symp. Proc. (2000) 628, p CC2.3.1-CC2.3.11. This reference discloses hybrid polymers derived from the copolymerization of (meth)acryl-derivatized oxometallate clusters of titanium or zirconium and radical polymerizable organic monomers such as methyl methacrylate.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.


Golden et al., U.S. Patent # 5,589,537 is cited as being of interest for their disclosure of copolymers derived from metal clusters bearing polymerizable moieties and polymerizable organioc compounds. However, these clusters would not be aptly described by the formula of claim 1.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 571-272-1096. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

October 18, 2005


Marc Zimmer
AU 1712